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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,528	12/05/2003	Thomas Johnson	01311.001006.1	7337

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EXAMINER
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SHINGLETON, MICHAEL B

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application No. 10/727,528	Applicant(s) JOHNSON ET AL.	
	Examiner Michael B. Shingleton	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 6-3-2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eisenberg et al. 6,452,446 (Eisenberg) in view of Shapira et al. 6,640,110 (Shapira).

Figure 2 of Eisenberg discloses a feed-forward amplifier arrangement. A feed-forward amplifier arrangement by definition has a signal cancellation circuit and a distortion cancellation circuit. Eisenberg clearly recognizes that the amplifier arrangement is a power amplifier arrangement for a RF communications system (See column 1, around line 17). The reference is silent as to what type of communication system is employed. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed Eisenberg in a cellular communication system because as Eisenberg is silent on exact communication system, one of ordinary skill would have been motivated to use any conventional communications system therewith such as the conventional cellular system. Eisenberg clearly recites that the distortion cancellation is at least 35dB (See column 10, around line 57). This distortion cancellation is assumed to be over the entire operational frequency response of the amplifier arrangement. Eisenberg also discloses that the arrangement is for systems that employ "multicarrier" inputs (See column 5, around line 65). Eisenberg is silent on naming the bandwidth of the system. A cellular band of operation is well known to be from 806 to 902 MHz. This forms a bandwidth of greater than 75 MHz.

As exemplified by Shapira it is well known to employ the linearized power amplifier arrangement in a cellular communication arrangement that handles multi-carriers and employs a wide bandwidth that comprises at least the whole operator-allocated band (See column 11, around line 50).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have designed the amplifier of Eisenberg to have a bandwidth of at least 75MHz and use the amplifier of Eisenberg in a cellular communications arrangement as

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exemplified by Shapira. One would have been motivated to make the modification so as to provide a single linearized power amplifier over the entire bandwidth or operator-allocated band of a communications system as suggested by Shapira.

Applicant's arguments filed 6-3-2005 have been fully considered but they are not persuasive.

Applicant believes that Applicants submit that "the Eisenberg patent is not prior art, because the features relied upon in the obviousness rejection are neither described nor supported by (and thus not in compliance with Section 112, first paragraph) the minimal five-page disclosure of the Eisenberg provisional application. Fig. 2 of the Eisenberg patent, relied on to show a feed-forward amplifier which provides an alleged distortion cancellation of 35 dB, is not part of, nor supported by, the Eisenberg provisional application. In fact, Fig. 2 of the Eisenberg provisional application is substantially different from Fig. 2 of the Eisenberg patent: Fig. 2 of the provisional application lacks any description of multicarrier RF input signal (as depicted by a carrier frequency pair 12 in Eisenberg patent Fig. 2); it lacks disclosure of the internal structure and functionality of the so-called "power minimization loops" and "performance minimization loop;" and it lacks numerous circuit components (e.g., splitter 23, vector modulator 25, power detectors 37 and 97, to name just a few). Moreover, the very brief description of provisional Fig. 2, at paragraphs 7 and 8 of the Eisenberg provisional application, does not cure the above deficiencies. Further, Applicants note that the 35 dB of distortion cancellation alleged in the Eisenberg patent to be achieved by its Fig. 2 circuit, and relied upon in the obviousness rejection, is not alleged in the Eisenberg provisional application." The examiner respectfully disagrees. It is important to note that Figure 2 of the Eisenberg patent and Figure 2 of the Eisenberg provisional application are substantially the same. The examiner also contends that one skilled in the art would have been able to make and use the invention described in the provisional application (Note Figure 2 of the Eisenberg provisional application.). The fact that the disclosure is five pages does not mean that one skilled in the art would have found the disclosure to be non-enabling. Applicant recites that the provisional application lacks any description of a multi-carrier RF input signal. The examiner respectfully disagrees for the second paragraph of the Eisenberg provisional application recites that the invention is directed toward a wide range...of input signal conditions". Also multi-carrier input signals including cellular communications were around at the time of the Eisenberg provisional application and thus applicant's argument that one would not have been motivated to use a multi-carrier signal with Eisenberg is respectfully

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disagreed with. However, the issue is one of whether the Eisenberg reference provides for the recited function (See MPEP 2114). The examiner has reason to believe that Eisenberg patent and the provisional application which the Eisenberg patent is based does provide for the recited function. In fact "Claim 7" of the Eisenberg provisional application does recite carrier to distortion ratios as high as 85dB and column 10, around line 60 of the Eisenberg patent recites the signal to distortion ratio as high as 85 dB. While the examiner has shifted the burden to applicant to prove otherwise, it is important to note that applicant has not provided any evidence that the prior art is incapable of providing the claimed function.

Applicant states that the provisional lacks many components like the splitter 23, the vector modulator 25 etc.. These elements are not required for the rejection and thus these arguments are moot. The splitter 23 is just a redrawing of the Figure 2 of the provisional application (Note the signal source connected to CPLR 4 and CPLR 7, the vector modulator mentioned by applicant is not required for the rejection and neither are the power detectors 37 and 97 even though these elements are represented by circles that contain a line in the provisional application.) Note that power must be sensed because of the "power minimization loops" control circuit. As to the "power minimization loops" and "performance minimization loops" the examiner contends that one skill in the art would have been able to make these control circuits contrary to applicant's beliefs. Again a "short" disclosure is not a basis for non-compliance with 35 USC 112.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571)272-1770.

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The examiner can normally be reached on Tues-Fri from 8:30 to 4:30. The examiner can also be reached on alternate Mondays. The examiner normally has second Mondays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS

August 18, 2004

*Michael B. Singleton*  
MICHAEL B. SINGLETON  
PRIMARY EXAMINER  
GROUP ART UNIT 2817